

1 The place of cryptids in taxonomic debates

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Introduction

The term ‘cryptid’ is a relative newcomer to the English lexicon, coined as recently as 1983, according to the *Oxford English Dictionary*, to take the place of ‘sensational and often misleading terms like “monster”’. As a noun, ‘cryptid’ appears in popular science writing to refer to such ‘improbable animals’ (Museum Accepts Cryptic Collection 1999: 1079) as the coelacanth (thought to have gone extinct millions of years ago but found to exist), the Tasmanian tiger (now listed as extinct but still allegedly sighted), and the yeti (never definitively documented). Scientists writing to a scientific audience are more likely to use the adjective ‘cryptic’ than the noun ‘cryptid’, though they do so in a variety of strategically specific ways to cover much the same ground as cryptozoologists do when referring to cryptids. For example, scientists use ‘cryptic’ to refer to the camouflage coloration of some species, questionable hybrids, recently discovered species, undiscovered species suspected to have existed in the past, and a single species that has been found, through genetic technologies, to be multiple species.

Until recently, then, the term ‘cryptid’ has appeared mainly in that marginalized field mixing folklore and zoology known as cryptozoology. The so-called ‘father of cryptozoology’ (Coleman 2001: n.p.), Bernard Heuvelmans, used the term ‘cryptid’ to refer broadly to the many unknown and relict species that he was convinced still roamed the earth. A zoologist by training but quixotic by inclination, Heuvelmans focused his exhaustive research on large animals (like sea serpents) and hominoids (like the yeti), establishing a trend that has dominated cryptozoology ever since (Weidensaul 2002: 173). In this paper, the non-technical term ‘hominoid’ is used to refer to the taxonomic superfamily *Hominioidea*, while ‘hominin’ is preferred over the less precise ‘hominid’ to refer to those specific hominoids in the tribe *Hominini*, which includes humans and their ancestors following their split from the great apes (Stein n.d.: 4). According to Heuvelmans, cryptids matter to humans in

specific ways: they have traits that are ‘truly singular, unexpected, paradoxical, striking, emotionally upsetting, and thus capable of mythification’ (cited in Dendle 2006: 192). It did not matter to Heuvelmans that cryptid existence lacks objective proof; circumstantial and testimonial evidence of their reality is compelling enough to take their possible existence seriously (Heuvelmans 1958: 28–29). He thus viewed cryptids as ‘monsters’ only in the sense that their possible existence demonstrates something of value that has been lost from the natural world because of human actions that only human representation could confirm. Since their existence depends so much on human testimony and redemption seeking, the search for cryptids takes on a moral dimension in Heuvelmans’ writing. For example, at the conclusion of the study that launched the field, Heuvelmans writes,

Tomorrow we may know one of our other relatives: the abominable snowman [yeti], for instance, who is surely a shy and gentle great ape; or perhaps an even more human primate like the tiny agogwe or the elusive orang pendek. I hope with all my heart that when he is captured there will be no needless murder. Have pity on them all, for it is we who are the real monsters.

(1955: 518)

Heuvelmans’ perspective continues to influence the discourse among crypto-zoologists and others on why cryptids matter. Second-generation cryptozoologist Loren Coleman’s characterization of cryptids, echoing that of Heuvelmans, underscores their importance to humans: they are ‘either unknown species of animals or those that are thought to be extinct but [that] may have survived into modern times and await rediscovery by scientists’ (Coleman 2003: n.p.). Known only indirectly, merely suspected to exist, or somehow surviving the vicissitudes of modernity, the distinct agency of these animals challenges humans who attempt to situate them in time and place. Significantly, Coleman suggests, *any* animal lacking a precise identification or classification could be considered a cryptid (Coleman 2003). Such an expanded meaning of the term would include many more nonhumans, and not all of them megafauna: disputed type specimens, hybrids and mutants, urban wildlife, and formerly domesticated animals gone feral. Taking Coleman’s suggestion one step further, one might also consider as cryptids such engineered microorganisms as oil-eating bacteria and synthetic genomes. Under this scheme, all sorts of anomalous nonhumans would matter that much more to humans in a variety of fields touching on human–animal studies or anthrozoology, presenting new opportunities to build knowledge across disciplines. Examining why and how cryptids matter illuminates the fundamental, compelling role of anomaly in both scientific and popular responses to the natural world, as well as the ways these responses inform each other. Destabilizing and disturbing, anomalies in the natural world provoke questions and drive quests. Anomalous animals function as points of negotiation over what counts as worthy knowledge in the life

sciences, as their very ambiguity can help clarify the changing values and emerging problems in such projects as species cataloging and conservation efforts. Anomalous animals are also at the crux of the field of human–animal studies or anthrozoology, as our perception of their apparent monstrosity can illuminate some of the contradictions in our characterization of animal others (e.g. Fudge 2002). Putting cryptozoology into historical context and tracing its various manifestations in recent popular and professional discourse, I consider some of the ways that cryptid proliferation calls our attention to non-human agency.

Recording the cryptid moment

Why did the neologism ‘cryptid’ seem necessary to cryptozoologists in 1983? What was contributing to the sense that anomalous animals merited an investigative category of their own? A number of developments in establishment science were taking place at this time that lent credibility to the question of cryptid existence. One development in the early 1980s that crystallized the field was the formation of the International Society of Cryptozoology (ISC) in 1982, whose mission was ‘to promote scientific inquiry, education and communication among people interested in animals of unexpected form or size, or unexpected occurrence in time or space’ (Wilford 1982: n.p.). Held at the National Museum of Natural History under the auspices of the Smithsonian Institution, the society’s formation and requisite journal, *Cryptozoology*, were high profile enough to command the attention of the likes of the American Philosophical Society. The attention was far from flattering, however. The eminent paleontologist George Gaylord Simpson put it bluntly: ‘The pursuit of supposed mammals lacking objective evidence is not a science in an acceptable usage of that word’ (1984: 1).

Yet evidently the formation of the ISC was tapping into a strong anti-establishment sentiment, as during that same year another group of academic free thinkers with equally respectable credentials organized in an attempt to shirk dogma in the sciences. The mission of this group, the Society for Scientific Exploration (SSE), was to consider ‘topics which are for various reasons ignored or studied inadequately within mainstream science’ (Society for Scientific Exploration 2008: n.p.), thus reflecting a perception among some scientists that the scientific enterprise could be investigating a greater variety of phenomena than it was at this time. Mentioning the formation of the ISC as a ‘symptom’ of late twentieth-century science’s failure to investigate natural phenomena (e.g., the Loch Ness Monster) that matter to lay people, SSE member Henry H. Bauer (2002a; 2002b) railed against what he saw as the increasing hegemony of establishment science throughout the twentieth century. Science, he claimed, had moved away from the Mertonian norms of ‘disinterested skepticism’ in the production of ‘universally valid knowledge as a public good’ (Bauer 2004: 645), gradually becoming scientific, bureaucratic, commercial, and downright fraudulent (Bauer 2004: 644). At the same time, a populist

strain of distrust of establishment science was well underway as the Cold War escalated and issues like environmental pollution, food safety, and the treatment of animals in laboratories, farms, and zoos was shaping a more cautionary view of the role of science in everyday life.

Magnifying this distrust of establishment science is the awareness among cryptozoologists that ‘when a knowledge domain that has potential for contributions to science is created by amateurs, it will eventually combine with and then be taken over by professionals, with the result that amateur leadership is displaced’ (Regal 2009: 83. See also Dendle 2006). In turn come a loss of motivation for needed volunteers and a lack of appreciation for local knowledge. Nevertheless, a vernacular science around ‘things that matter’ to lay people – for example annual bird counts and county extension projects – was flourishing.

Throughout the twentieth century, dramatic cryptid discoveries and tantalizing bits of evidence had been capturing the public’s attention. These ran the gamut from mythical to unexpected beasts, including a ‘dragon’, specifically the giant lizard known as the Komodo dragon (*Varanus komodoensis*); and a survivor from 80 million years ago, the ‘living fossil’ fish otherwise known as the coelacanth (*Latimeria chalumnae*) (Weinberg 2000: 28). The public’s first encounters with the Komodo dragon following naturalist W. Douglas Burden’s 1926 expedition to find the fabled creature must have made a considerable impression, as Burden had worked hard to craft a compelling – if not entirely naturalistic – visual narrative using carefully edited documentary film footage of his trek (Mitman 1993). Including a diorama of twelve Komodo taxidermies at the American Museum of Natural History and two live Komodo dragons on exhibit at the Bronx Zoo, all captured by Burden, Burden brought a verifiable cryptid into the public eye as never before. The public’s first exposure to the coelacanth some 13 years later, though not as crafted, was equally dramatic. Instead of a ‘dragon’, this time a scientist had discovered what amounted to a ‘living dinosaur’ (Hamlin 2009a; 2009b) in the waters near the Comoros Islands, east of South Africa. Here, the compelling narrative drew on the evolutionary possibility that the ancient fish was evidence of a ‘missing link’ – a surviving member of a group of fishes, thought to be the ancestors of all land-dwelling creatures, ‘whose fins appeared to sprout from the end of fleshy, limb-like lobes, almost like toeless legs’ (Weinberg 2000: 24). Framed thus by newspapers all over the world, which were sure to include the only available photograph of the strange taxidermy, the coelacanth finding touched off an enormous public interest. With no additional sightings for more than a decade following the 1938 finding, the coelacanth tale became the kind of lost-and-found story often associated with cryptids, complete with ‘wanted’ posters offering a reward for anyone able to capture the alleged creature, dead or alive, and a successful expedition to find a second specimen in 1952. By 2009, there were nearly 175 coelacanth taxidermies on display around the world (Weinberg 2000: 205).

The Komodo dragon and the coelacanth are cryptids whose eventual capture, public display, and admission as legitimate subjects of study into the halls of

establishment science diminished – but did not completely extinguish – their status as cryptids. The recent spate of unprovoked Komodo dragon attacks on humans, an unprecedented development in Komodo–human relations (Komodo Dragons Attacking Islanders 2009: n.p.), reifies the animal's traits as a cryptid in the sense that this new behavior is unexpected and emotionally disturbing. Similarly, the 1997 finding of a coelacanth in North Sulawesi, Indonesia, thousands of miles from the original captures in 1938 and 1952, attenuated the coelacanth's cryptid-like evasion of existing in a proper time and place. The 'cryptidity' of the Loch Ness Monster and the yeti, on the other hand, remains as unvarying as ever. In the decades leading up to the formation of the ICS, the public had become familiar with the numerous sightings of Nessie and Yeti; indeed, the serious efforts to investigate those sightings to some extent validated the field of cryptozoology (Regal 2009: 86–88). Heuvelmans' massive and lavishly illustrated 1958 book, *In the Wake of Sea-Serpents*, documented the plausibility, to many scientists of the day, of the existence of water-dwelling cryptids (particularly large, dragon-like sea creatures) familiar in folk tales. Among the French, at least, the discovery of the coelacanth solidified this conviction (Heuvelmans 1958: 26; see also Bauer 2002a: 241). Long a staple of local lore, the mysterious animal living in Scotland's largest body of water first received worldwide attention in 1933, when newswires picked up the story of a sighting reported in the *Inverness Courier*. The story triggered dozens of other people to write up their eyewitness testimonies and submit them to the Scottish papers, and later that year the first of a number of photographs of the alleged 'monster' were published. Soon the requisite investigation was launched (Weidensaul 2002: 154–155). Despite, or perhaps because of, inconclusive evidence of its existence, interest in Nessie remained strong. According to Coleman and Clark (1999: 140–142), the investigations made significant strides in the 1960s and 1970s, generating compelling – though again, inconclusive – evidence of some large, unidentifiable entity in the lake. Although Heuvelmans blamed the press for dampening scientific interest in the Loch Ness Monster (1955: 26), in fact, the media coverage triggered such a popular interest that the intrigue surrounding the cryptid, rather than the cryptid itself, became the focus (Bauer 2002b. See also Thomson 1991: 151).

Meanwhile, a similar, though more global, phenomenon was developing with regard to sightings of alleged hominoids of the 'big hairy monster' variety. The yeti, though known in various forms across Asia long before the twentieth century, became familiar in the West following the 1921 Mount Everest expedition of British explorer Charles Kenneth Howard-Bury. Howard-Bury's description of what appeared to be large, human-like footprints in the Himalayan snow ignited the public imagination, which was further aroused by a journalist's mistranslation of the Tibetan name for the creature that might have made the footprints (Sanderson 1961: 10–11; Coleman and Clark 1999: 23–24). The 'abominable snowman' thus entered the public lexicon 'like the explosion of an atom bomb' (Sanderson 1961: 11). According to cryptozoologist Ivan T. Sanderson in his history of hominoid sightings between 1860 and

1960, ‘Nobody, and notably the press, could possibly pass up any such delicious term’ (Sanderson 1961: 11). Indeed, in Sanderson’s view, the abominable snowman account constituted ‘a sort of turning point in Western thinking’ (Sanderson 1961: 9) about the potential significance of ‘native knowledge’ (Sanderson 1961: 7), encouraging in the public consciousness a greater appreciation for the role of folk tales and the lore of amateur naturalists in adding to establishment knowledge of the natural world. At the same time, in North America, accounts of a similar creature known in Canada as ‘Sasquatch’ and in the United States as ‘Bigfoot’ began to thrive, and again the requisite searches for eyewitnesses and evidence were organized in the 1950s and 1960s. As is characteristic of the human response to cryptid manifestation, pinning a name on the unknown entity contributed to the process of its becoming a familiar yet still baffling thing, a phenomenon all the more uncanny when that thing so resembles another human being. According to Coleman and Clark, ‘[t]he naming of Bigfoot was a significant cultural event’ (1999: 40) as it enabled mass media consumers to organize unidentifiable sights, sounds, and traces under a single rubric, a humanoid being whose possible existence had long been discussed by people in many places throughout the world. In no time, more human-like beings entered the global cryptozoological discourse – the Latin American chupacabra and the Australian yowie, among many others that have been catalogued – and while all are improbable animals, each one is characterized, in folkloric fashion, by its illumination of the distinct concerns of the people who claim to have encountered it. Indeed, according to Lauren Derby in her cultural and historical analysis of the chupacabra legend, which originated in Puerto Rico, to the Puerto Ricans, this entity represented the majority ambivalence over ‘the predatory designs of the United States on Puerto Rico’ (2008: 300). Regarding the yowie legend in Southern Australia, folklorist Philip A. Clarke describes its significance to various aboriginal groups as a fear response to the colonial incursion (2007: 143) while to the colonials it signified the possibility of discovering creatures previously unknown to science (2007: 147).

Locating cryptid spaces

While cryptozoologists’ dedication to investigating reports of cryptids like Nessie and Bigfoot may have peaked by the mid-1970s (Regal 2009: 88), the field of cryptozoology itself had already taken root by then and indeed, the general public now seems more engrossed than ever with cryptids of all kinds. As folklorist Peter Dendle observes, ‘[p]opular interest in cryptozoology [...] has been fuelled by a recent publishing frenzy of encyclopaedias, dictionaries, and guides devoted to the subject, as well as by unprecedented opportunities for enthusiasts to collect data and exchange stories via the Internet’ (2006: 190). In addition to its use on Loren Coleman’s notable website *The Cryptozoologist*, the word ‘cryptid’ has crept into such popular discourse as novels, movies, and children’s television, touching on the themes of

suppressed knowledge, dangerous anomalies, and, most significantly, threatened nature. The novel *Cryptid: The Lost Legacy of Lewis and Clark* (Penz 2006) dramatizes the association of cryptid hominoids with political conspiracy. Bringing together a cryptozoologist, a paleontologist, and a descendant of former US president Thomas Jefferson (who sent the two explorers on their mission), the novel tells a story that, filling in the gaps in the explorers' field journals, 'threaten[s] to rewrite American history' (Penz 2006: n. p.) by exposing how the president was involved in suppressing evidence that a giant hominoid coexisted with modern humans at the time of European colonization of North America. The plot of the movie *Cryptid*, playing on the theme of the dangerous anomalous creature, tells the story of a group of scientists investigating a series of mysterious murders in South Africa attributed to a man-like creature 'previously undiscovered by science' (Cryptidthemovie.com). More empathetic to the plight of cryptids than these examples, however, is the portrayal of nature under siege in the cartoon *The Secret Saturdays*, an 'action series about the Saturdays, a family of cryptozoologists dedicated to protecting the secrets and mysteries of the world' (Cryptid Saturdays 2008–2009). Addressing such issues as climate change and biodiversity, the cartoon situates cryptids in a more altruistic context than do the forms directed at adults, thus portraying the redemptive mode of human stewardship of cryptic nature.

The current cryptid moment is occurring in spaces that cannot be dismissed as mere blogosphere banter or playground amusement. For example, a number of recent museum exhibits have explored the significance of cryptids in popular and scientific cultures. Perhaps the most significant of these was the 2006 Bates College Museum of Art exhibit 'Cryptozoology: Out of Time Place Scale', which explored the interconnectedness of lost species (like the Tasmanian tiger [*Thylacinus cynocephalus*]), found species (like the coelacanth), and imagined creatures (like Bigfoot). Describing the significance of the visual representation of animals to contemporary viewers, curator Nato Thompson identifies in their disappearance during the era of modernism and reappearance during the last 30 years 'an increasingly complicated human subject' for whom contemplation of animal others, particularly strange ones, suggests a renewed interest in examining the 'periphery of human subjectivity' (Thompson 2006: 152), that is, the possibility that what lies at the limits of our perception has a subjectivity of its own beyond our control. Like the Bates College exhibit, the traveling exhibit 'Mythic Creatures: Dragons, Unicorns and Mermaids', launched in 2007 at the American Museum of Natural History, also brought extinct animals into the same exhibit space as the legendary creatures of the exhibit's name, placing them alongside the extinct Malagasy elephant bird (*Aepyornis maximus*) and the extinct Asian primate *Gigantopithecus blacki*. Asking the obvious question, why devote natural history museum space to an exhibit focused primarily on mythic creatures?, *New York Times* critic Edward Rothstein suggests that perhaps it is 'because they allow us to glean something about how humanity struggles to make sense of the natural world'

(2007: para. 5), a task that must sometimes begin by imagining ways it might be otherwise.

The collections of cryptozoologists themselves are also on display. Bernard Heuvelmans' archive, which contains almost 1,000 books, 25,000 files, 25,000 photographs, correspondence, and artifacts, is held at the Musée de Zoologie in Lausanne, Switzerland. In 2009, the museum published the first issue of the cryptozoological journal *Kraken* in response to what it perceived to be a need for a renewed academic discussion on crypto-topics (Coleman 2009). Loren Coleman's private collection likewise includes a variety of materials, which he continues to develop via donations. Reflecting the inclusive spirit of cryptozoology, these collections encompass every conceivable response to and representation of cryptids, including field samples, artifacts, replicas, and pop culture tchotchkes; critical reviews and commentary in academic journals; accounts of cryptids found to actually exist; and exposés of cryptid hoaxes, which cryptozoologists since Heuvelmans have been careful to document. These ways of attending to the possibility of cryptid existence as a phenomenon that is both scientific and cultural are part of the zoogeographical project to 'locate' animals in their 'proper place[s]' (Philo and Wilbert 2000: 7–8). However, given the singular nature of most cryptids, they may always remain 'out of time, place and scale' (Thompson 2006).

The sheer inclusivity of cryptozoology has a strong popular appeal in light of the increasing specialization of establishment science that developed in the late twentieth century. The periodic commentary on the phenomenon of cryptozoology that appears in mainstream scientific publications illustrates this populist appeal. Paul McCarthy's 1993 article in *The Scientist*, 'Cryptozoologists: An Endangered Species', uses interviews with several scientists known for their cryptozoological research to show what makes cryptozoologists tick (the thrill of the quest, the lure of finding new species, an appreciation for indigenous ways of knowing) despite the professional risks involved in doing such work (lack of funding, denial of tenure, loss of credibility). Just over a decade later, however, Stephen Pincock (2004), writing in the same publication, revisits McCarthy's claim in his derisive account of 'the world's first school for cryptozoologists' started in Sweden. The expanded mission of the Global Underwater Search Team (GUST), originally founded in 1997 to look for freshwater cryptids like Nessie, now includes a six-month course in the theoretical underpinnings of cryptozoology and a week's worth of field work. Like any good journalist, Pincock lets his interviewee, GUST founder Jan Sundberg, tell the story himself: 'We're not scientists, let me stress that, but we do try to do things in a scientific way [...]. We collaborate with the Swedish fishing board and universities' (Pincock 2004: 12). Not without irony, Pincock remarks, 'Sundberg worked for 25 years as a journalist, so he was trained to be a skeptic' (2004: 12). Like any good science magazine, *The Scientist* indulged its readers in yet another poke at cryptozoologists a year later, with Robert W. Philips (2005) claiming that cryptozoology is 'not dead yet' because of astrobiological endeavors like the Search for Extraterrestrial Intelligence

(SETI) and NASA's recent missions to look for life on Mars. According to Philips, this, too, is cryptozoological research.

Other scientific forums have taken the work of cryptozoology, and the existence of cryptids, more seriously. Mark K. Bayless' (2005) review of three cryptozoology books in the *Quarterly Review of Biology*, for example, avoids demarcating amateur and professional science, evaluating the books on the basis of the 'seriousness' of their cryptozoology and their relevance to zoologists. In the acclaimed science blog *Tetrapod Zoology*, which became an invited blog on the Science Blogs network in December 2006, and in 2008 was recognized by Networked Blogs as one of the top five zoology blogs, paleontologist Darren Naish follows news of cryptozoology and 'speculative zoology', noting that 'a substantial amount of research on the history of zoological exploration and discovery was and is cryptozoological in scope' (2007: para. 4). Like Bayless, he emphasizes that 'it's very difficult—if not impossible—to define a boundary between cryptozoology and "conventional" zoology' (2007: para. 5). However, it is in Naish's post on the continuing discoveries of mammals (Naish 2009) that his focus shifts from the philosophical problems of cryptozoology to those practical concerns over the natural world that transcend disciplinary boundaries, namely species loss, biodiversity, and conservation. His comments echo those of Robert May some 25 years earlier. In a 1984 *Nature* review of the ISC's first volume of *Cryptozoology*, May lamented the new journal's focus on hominoids and large vertebrates, not because of their exaggerated appeal, but because such focus overlooks the many smaller cryptids that are also rare and threatened: 'my reaction to *Cryptozoology* is regret ... for the dissipated efforts that could be directed more productively to studying some of the species of tropical plants, insects and other organisms that may be going extinct at a faster rate than they are being classified' (May 1984: 687).

Cataloging cryptids

In light of the new knowledge of the extinctions of unidentified creatures, cryptids have, in an ironic sense befitting their ambiguity, been on the rise during the last two decades. The irony here is the post-extinction discovery and documentation of so many species that have been coexistent with humans all along. Despite all of this documented loss, the lack of knowledge of species remains considerable: estimates for the number of unknown species range from 3 million to as many as 100 million (Lövei 2001: 732; Wilson 2003: 78). What is more certain, though, is that a mass extinction of all kinds of species, both known and unknown, is currently under way. Although measuring the rate of the species loss in the current mass extinction is difficult, especially for smaller taxa like insects,

three different methods for predicting impending extinction rates suggest future life spans of birds and mammals of 200 to 400 years if current trends

continue. These impending extinction rates are at least 10,000 times higher than background rates in the fossil record.

(Lövei 2001: 743)

This gap in our knowledge of life forms, along with the rapid rate of their extinction, indicates that an abundance of species may forever remain cryptids, known only to themselves and lost to human history and knowledge.

In contrast to estimations of the decline of biodiversity, the twenty-first century has been deemed ‘a new age in biology’ (Ceballos and Ehrlich 2009: 3841) because of the more than 400 new mammalian species that have been identified since 1993. Significantly, from a cryptozoological view, some of the discoveries have included ‘sea monsters’, and ethnographic methods are not off the table in continuing the search. For example, in response to the recent identification of several large vertebrate marine species, including a shark and three types of whale, Woodley and colleagues (2008) combine statistical regression models with an evaluation of cryptozoological and ethnozoological evidence to determine that as many as 15 more such species may yet be identified. Citing sea monsters like the merhorse and the tizhurek (a snake-like sea creature known in the Inuit oral tradition), the researchers argue that, ‘[b]ecause cryptozoological data are mostly discussed in the “grey literature”, appraisals of these cryptids have never appeared in the mainstream literature, perpetuating a cycle whereby these putative animals remain unevaluated’ (Woodley et al. 2008: 225). Though it is not as explicitly cryptozoological as the research of Woodley et al., statistical probability modelling and trend analysis (see, for example, Zapata and Robertson 2007) are common methods to estimate the number of unknown species. The use of probability methods to guess at cryptid existence – biology in a speculative mode – seems apt for species whose actuality may always be either hypothetical or confirmed only after extinction. The use of ethnographic methods may also be more necessary than some biologists would like to admit; for example, it took extensive interviewing with local Indonesian fishermen for marine biologist Mark Erdmann to verify that a fish he had spotted at market, well known to the locals as the foul-tasting but beautiful rajah laut (king of the sea), was indeed a coelacanth (Weinberg 2000: 172–178; Holder et al. 1999: 12616). It is more than a little incongruous, then, that species like the coelacanth, long known as living creatures by their human co-habitants, should be dubbed ‘lazarus species’ by the strangers who only knew them through the fossil record but are eager to claim naming rights of the newly ‘found’ species. More important than who gets credit for recognizing the return of a fossil species, however, is the action taken to protect it (see, for example, Fricke 1997 and Erdmann 2006).

Conservation efforts to protect known species are arguably another factor in the increase in cryptid sightings. Increasingly, we understand the natural world as a complex system in which the endangerment or loss of species, including plants comprising habitat, signifies some larger, typically anthropogenic, problem. To the extent that cryptid existence hinges on human activity,

then, conservationist Robert May's disappointment with *Cryptozoology* was right on target; the field of conservation, from its founding in 1985 onward, has been characterized as a 'crisis discipline' requiring a prompt human response (Soulé 1985: 727; see also DeSalle and Amato 2004: 702). Michael Soulé's suggested 'rules for action' (1985: 729) to maintain natural biological systems involve a recognition of the coevolution and interdependence of species, among other axioms, while his normative postulates establish the shared values of this burgeoning field. Among them is the ecophilosophical notion that 'biotic diversity has intrinsic value irrespective of its instrumental or utilitarian value' (1985: 731). Based on Soulé's description of conservation biology, this new field was going to require interdisciplinary cooperation from sociologists, economists, and philosophers no less than taxonomists, evolutionary and molecular biologists, and ecologists. From a humanistic standpoint, cryptozoology remains important in this interdisciplinary effort; according to Dendle, it has a direct relationship to the mass-scale anthropogenic extinction now underway: 'One important function of cryptozoology ... is to repopulate liminal space with potentially undiscovered creatures that have resisted human devastation' (2006: 198). Liminal space, in Dendle's view, serves as the metaphoric meeting ground for animals past, present, and future, a conceptual coexistence that may be essential to coming up with practical solutions to the biodiversity crisis.

Soulé's call to action had a receptive audience. Heuvelmans had already made the cryptozoologists' case for biodiversity in his 1983 article 'How Many Animal Species Remain To Be Discovered?' a point that Jared Diamond reiterated in his similarly titled 1985 piece, 'How Many Unknown Species Are Yet To Be Discovered?' Acknowledging cryptozoologists as among those few people still engaged in the search for new species, Diamond's article conveys the robust spirit needed for the interdisciplinary work of cataloging and protecting species. One leader in this ambitious undertaking is evolutionary biologist E. O. Wilson. Observing at the turn of the century that fewer than 2 million of the earth's potentially 10 million species have so far been identified and arguing that the 'descri[ption] and classifi[ca]tion of] all of the surviving species of the world [should] be one of the great scientific goals of the new century' (Wilson 2000: para. 2), Wilson helped launch the online *Encyclopedia of Life* (eol.org), a 'global partnership between the scientific community and the general public' intended to 'make freely available to anyone knowledge about all the world's organisms' (Wilson 2003). A searchable, constantly changing database curated by professional scientists, the project incorporates all previous species-cataloging efforts, of which there are too many to list. According to Wilson, it will enable a census of 'biotas of entire ecosystems ... revealing unknown invertebrates and the smallest invertebrates, which still comprise most species yet lack even a name' (2003: 77). Wilson envisages the encyclopedia 'transform[ing] the very nature of biology' (2003: 77). On this point, his tremendous optimism casts a long shadow, for such a transformation will need to resolve a number of philosophical and technical problems that have

so far been intractable: taxonomic and phylogenetic approaches and methods to describing life forms are ‘simply incompatible’ (Wheeler 2008: 1), even though both are needed to address the biodiversity crisis (Meier 2008: 118).

While the difficulty with bringing taxonomy and phylogeny into constructive conversation may hinder global biodiversity cataloging, it clarifies the goals of these big projects and lends credibility to cryptozoology. Taxonomy focuses on identifying type specimens through observed physical characteristics and behavior; as such, it is labor intensive and often calls upon the local knowledge of amateur or ‘folk’ naturalists. Taxonomic methods have traditionally been the *modus operandi* of cryptozoologists, who must first establish conclusive evidence for the existence of an alleged species by proffering a body. In this way, taxonomy serves as the starting point for the experimental methods of phylogeny, which seeks to articulate evolutionary processes, via lineage mapping and, especially, DNA sequencing. Applied together, taxonomic identification techniques and DNA sequencing have identified a number of cryptic species, one of the goals of biodiversity cataloging. For example, the species of North American shore bird known as the solitary sandpiper (*Tringa solitaria*) has been found, through a combined analysis of variations in morphology and DNA, to be two distinct species (Hebert et al. 2004). Similarly, a single species of skipper butterfly common in both northern and southern hemispheres has in fact turned out to be ten species (Sáez and Lozano 2005). The greater speed of molecular identification techniques over taxonomic methods – not to mention their greater prestige among biologists and their funding agencies – has been an asset to cryptozoology. Erdmann’s 1997 finding of a coelacanth in Sulawesi, Indonesia, so far from the ones caught off the coast of South Africa decades earlier, raised the question among scientists as to whether a second species had been found. Identifying a number of both morphological and genetic differences between the fish in these separate locations, they were able to confirm that indeed it had (Holder et al. 1999).

Significantly, though, molecular identification techniques have been used to confirm the *non*-cryptic status of presumed cryptids, as well. Pierce et al. (2004), for example, describe the combined use of electron microscopy, biochemical analysis, and molecular techniques in determining that the ‘Chilean Blob’, a 13-ton octopus-like mass of tissue found washed up on a beach in Los Muermos, Chile, was in fact the partially decomposed remains of blubber from a sperm whale (*Physeter macrocephalus*). Similarly, Carr and colleagues (Carr et al. 2002) used polymerase chain reaction (PCR) to conclude that an unidentifiable carcass discovered on the coast of Newfoundland was also that of a sperm whale. What is notable in these two reports is their reference to legends of anomalous marine animals and the affiliation of those legends to scientific investigation. As Pierce et al. comment, though such legendary creatures are ‘rarely’ found, ‘a few monsters, like the Nordic tale of the Kraken – a large and ferocious squid-like animal – may have a basis in reality’, as evidenced in the 2003 discovery of the giant squid *Mesonychoteuthis hamiltoni* (Pierce et al. 2004: 125). Carr and colleagues also link catalogs of folkloric cryptids (from

Homer's *Iliad* to Ellis' [1994] *Monsters of the Sea*) to documented recent discoveries of new marine creatures, noting how the persistence of fabled cryptids and their scientific discoverability 'keep ... us alert to the possibility of "new varieties of beings" in the deeps' (Carr et al. 2002: 1). These examples show how science's systematic depopulation of liminal cryptozoological space in fact reaffirms the very possibility of cryptid occupation of that space. Moreover, some cryptids are likely to remain cryptic despite the precision techniques of DNA analysis. For example, hybrids, very old specimens, and species whose genotypes have been altered by genetic engineering or naturally occurring horizontal gene transfer challenge current molecular identification methods, such as DNA barcoding. These limitations reflect the larger challenges scientists face in reaching any consensus on the species concept itself. Considering the increase in genetic modification of organisms, new understanding of horizontal gene transfer phenomena, and some of the challenges of extracting ancient DNA from archaeological finds, the number of cryptids is not likely to diminish.

(Mis)Recognizing cryptic human kin

Of all cryptozoological projects, the liminal spaces occupied by bipedal, human-like cryptids may be the richest sites for unearthing explanations of why cryptids matter. Unlike dragons and sea creatures, these cryptids resemble us. They thus present us with the familiar, though no less uncomfortable, task of determining just how best to associate ourselves with them. For if Bigfoot and his cryptid kin are more than simply 'wildmen' [sic] and as such matter in some more-than-animal way, how then are we to position them in our family tree, where *Homo sapiens* currently occupies the topmost branch?

Recent developments in genome mapping and species identification among primates confirm just how troubling this question is. The mapping of the chimpanzee genome in 2005, for example, revealed that *Homo sapiens* and *Pan troglodytes* share 98% of DNA and almost all of the same genes (Li and Saunders 2005). With this development, a once familiar nonhuman at once became 'paradoxical, striking, [and] emotionally upsetting' to use Heuvelmans' words (cited in Dendle 2006: 192); its similarity to humans suddenly called on us to look for its differences. According to Chris Gunter and Ritu Dhand, in a *Nature* editorial accompanying the announcement of the chimpanzee genome, 'chimps are the best starting point to study not the similarities, but the minute differences that set us [humans] apart' (2005: 47) from other living things. Since then, projects to map the genomes of some of our other cousins, such as the bonobo (*Pan paniscus*) and Neanderthal (*Homo neanderthalensis*), have intensified this effort to distinguish ourselves.

At the same time, however, as science delineates known primate kin, our hominoid cryptid counterparts proliferate. In an arch letter to *Trends in Ecology and Evolution* entitled 'Molecular Cryptozoology Meets the Sasquatch', Dave Coltman and Corey Davis attempted to 'shed the hard light of modern

science' (2006: 61) onto yet another series of sightings of a mysterious bipedal creature, this time in the Yukon. After amplifying a sequence of DNA obtained from a tuft of the creature's fur left at the scene of one of the sightings, the two biologists posited rather unevenly that either 'the Sasquatch might be a highly elusive ungulate that exhibits surprising morphological convergence with primates' or 'the hair [from this creature] might have originated from a real bison and be unrelated to the Sasquatch' (2006: 61). The simplest explanation being preferable, the scientists conclude that 'the identity and taxonomy of this enigmatic and elusive creature remains a mystery' (2006: 61). Whether, in this conclusion, they are referring to the 'real bison' or 'the Sasquatch' is not clear. It may be that scientists, no less than non-scientists, relish a good mystery.

One such mystery, though with a great deal more empirical evidence and a good bit of brawl, is the dispute over how to classify the 18,000-year-old remains of an apparent hominin skeleton discovered on the small Indonesian island of Flores in 2004. Called 'Flores Man' in homage to the location of its discovery, dubbed 'the hobbit' to indicate its size and suggest its familiarity to modern humans (a designation that came from the scientists themselves, rather than emerging in the popular press [Forth 2005: 16]), and given the taxonomic designation *Homo floresiensis*, the discovery compelled *Nature* writer Henry Gee to exclaim, 'cryptozoology can come in from the cold' (2004: para. 6; see also Myers 2004). Indeed, as the tiny skeletal remains piled up, so did the questions. Almost as soon as the bones had been excavated by Australian researcher Peter Brown and colleagues, who were certain they represented a new hominin species (Brown et al. 2004: 1055), they were seized by Indonesian scientist Teuku Jacob and his team, who were eager to refute their authenticity as a new species (Jacob et al. 2006: 13421). The controversy focused on skull size. According to Jacob's team, the Flores Man skull was that of a modern human; its smaller size was due, they claimed, to the insular dwarfing common among island species and, further, a possible microcephalic abnormality. The interpretation of the remains by Jacob et al. has since been at least partially discredited (Falk et al. 2007; Weston and Lister 2009), and Peter Obendorf and colleagues (2008) claim that the Flores skeletal remains are those of modern humans with their small size being attributed specifically to an endemic hypothyroidism. The debate over Flores Man's niche in the human family tree shows no sign of waning (see also Berger et al. 2008) and brain size continues to play a part.

Disagreement over Flores Man's morphology was accompanied by a dispute over the possible behavior of the being whose skull this once was. Did this cryptic miniature biped use tools? Hunt in groups? Have language? The answer to the tool question is an undeniable 'yes', as researchers found plenty of evidence of tool use at the archaeological site (Morwood et al. 2004). Again, what makes this finding so remarkable, and the other questions so compelling, is the tiny hominin's small brain (Wong 2004: para. 11). As one commentator for *Nature* put it, '[s]uch a minuscule brain in a species so recent that also made stone tools has strained credulity' (Lieberman 2009: 41). Echoing

other well-known and ideological scientific debates over the link between cranial capacity and intelligence (e.g., Gould 1996; Fausto-Sterling 1992), the argument invokes cultural issues well beyond the morphological specifications and behavioral speculations in Brown's initial report in the journal *Nature* (Brown et al. 2004). Like the racism, ethnocentrism and sexism that biased brain size research throughout the twentieth century, biases of sexism and speciesism infect the 'Flores Man' appellation and subsequent discussion about the hominin's small skull. In a move characteristic of anthropological science working in the type specimen mode, the first skeleton found was informally designated 'Flores Man' as a signifier for any possible others that might also turn up during the dig. But in fact, as Brown and his colleagues note, the skeleton's '[p]elvic anatomy strongly supports the skeleton being that of a female' (Brown et al. 2004: 1055). The elision of sex that occurred in subsequent references to the finding is not insignificant in terms of the differences that have mattered in brain research (Fausto-Sterling 1992). Moreover, the taxonomic disagreement over whether the Flores people should be classified as *Australopithecus* or *Homo* – a classification that would determine their proximity to modern humans – indicates an anthropocentric and even speciesist bias toward maintaining *Homo sapiens*' status as the only hominin.

Further ambiguating the scientific controversy over the Flores people's identification is the Indonesian folk wisdom that a group of little people by the name of *ebu gogo* lived on the island of Flores as recently as 200 years ago (Forth 2007: 261). As naturalist Scott Weidensaul observes, '[f]or almost every regional legend of a hairy giant, there is also at least one tradition of small, usually furry bipeds, often called "proto-pygmy" by cryptozoologists' (2002: 173–174). These smaller hominoid cryptids have been described scientifically as vestigial early humans – possibly species of *Australopithecus* – or even, more recently in human history, *Homo erectus* (Weidensaul 2002). In the case of the Flores people, the Nage villagers who live near the excavation tell of a group of tiny humans who stole their food. Calling them *ebu gogo*, meaning 'grandmother who eats everything' the Nage finally drove them away (Roberts 2004). Writing in *Anthropology Today* in 2005, Gregory remarked that cultural anthropologists have yet to appreciate the connection between local accounts of these little people and scientific interpretations of the Flores remains, yet they should, as both are stories that reflect the cultural values of the groups making claims about their meaning. 'Like hobbits', Forth explains, 'both *Homo floresiensis* and *ebu gogo* are products of [the] human imagination'; the challenge is to 'discover ... the true source of their resemblance' (Forth 2005: 16).

In keeping with the tendency of cryptids to remain cryptic, the true identity of *Homo floresiensis* isn't likely to be determined anytime soon. The identifying potential of DNA sequencing, as scientists have accomplished with *Homo neanderthalensis*, seems impossible since, unlike Neanderthal remains, which have been located in much colder climates than Indonesia's and thus yielded more viable genetic material, the Flores people's remains have been too badly degraded for definitive DNA sequencing. Furthermore, as indicated by the

finding of a cryptic proto-pygmy in Palau, Micronesia (Berger et al. 2008), it is possible that additional such cryptids will surface, as there are many land-bridge islands in Indonesia to which hominin populations might have traveled. Then, cut off from the mainland for thousands of years after waters rose, they may have shrunk in stature (Diamond 2004). If, in fact, it can be shown that not only *Homo neanderthalensis* but also *Homo floresiensis* coexisted at some point in history, the branches near the top of the Hominidae family tree may be feeling a bit crowded.

Conclusion

To the extent that ‘Flores Man’ remains our poorly recognized kin, ‘he’ also remains a cryptid. And like so many other cryptids, Flores Man signifies that which lies beyond what taxonomic codification, genetic coding, or folkloric accounts alone can make scrutable. Indeed, the trouble with cryptids is as much epistemic as it is biological or cultural. Their almost willful insistence on occupying the liminal spaces of knowledge production remind us that knowledge itself is only ever approached, never fully attained. Cryptozoological discourse can thus serve as a space in which scientific and humanistic modes of knowing intersect, demarcating some boundaries while blurring others. Cryptid manifestations, then, at once serious and playful, awaken us to not only our responsibilities to, but also the possibilities of, our surprisingly populous world at a time when our shared coexistences are threatened.

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